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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,602	02/12/2004	Donald J. Curry	117746	3953
27074	7590	04/10/2007	EXAMINER	
OLIFF & BERRIDGE, PLC. P.O. BOX 19928 ALEXANDRIA, VA 22320			SHIKHMAN, MAX	
			ART UNIT	PAPER NUMBER
			2609	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/10/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

10/776,602

Applicant(s)

CURRY ET AL.

Examiner

Max Shikhman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/12/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-12 is/are allowed.
- 6) ☒ Claim(s) 1-3, 13, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 14-17, 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>May 12, 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 1, line 2, attorney docket numbers should be replaced with application numbers or patent numbers. Appropriate correction is required.

Claim Objections

2. Claim 16, line 2, is objected to because of the following informalities: "*value of a either*" should be replaced with --value of either--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 21-23** are rejected under 35 U.S.C. 102(b) as being anticipated by Ricardo de Queiroz, "Mixed Raster Content (MRC) Model for Compound Image Compression" (Proc. SPIE 3653, 1106-1117 (1998)). Queiroz discloses as follows.

(i) **Regarding Claim 1:**

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*A method for organizing regions identified in image data, comprising one or more of:
forming one or more color clusters, each color cluster including regions of the image data
having a color difference that is less than a color threshold; and*

(Figure 4 shows FG, Mask and BG images, which contain color clusters.

Page 4, "In RC decomposition, regions containing text and graphics are identified and represented in a separate (foreground) plane. The whole region is represented in the foreground plane including the spaces in between letters and such. The mask is very uniform with large patches indicating the text and graphics regions, while the background contains the remaining regions, i.e. the document background itself, complex graphics and/or continuous tone pictures.")

grouping two or more regions included in a color cluster into one of one or more spatial clusters if closest boundaries of the two or more regions are within a distance threshold.

(Figure 4, RC, shows FG and BG images containing spatially same content as the original image. The bird is in the same spot in BG as in the original image. The text is in the same spot in FG as in the original image.)

() Regarding Claim 21:

A computer-readable medium having computer-readable program code embodied therein, the computer-readable program code performing the method of claim 1.

(Page 2, Chapter 1, "MRC is part of RFC 23019 or TIFF-FX (TIFF for Fax eXtended), the IETF file format proposal for Internet Fax.")

() Regarding Claim 22:

A xerographic marking device using the method of claim 1.

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(Page 2, Chapter 1, "MRC use for color fax is defined in a forthcoming ITU standard^{7,8}".)

() Regarding Claim 23:

A digital photocopier using the method of claim 1.

(Page 2, Chapter 1, "MRC use for color fax is defined in a forthcoming ITU standard^{7,8}".

Fax is also a photocopier.)

5. **Claims 1-3** are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (US-PAT-NO: 6741655). Chang discloses as follows.

() Regarding Claim 1:

A method for organizing regions identified in image data, comprising one or more of: forming one or more color clusters, each color cluster including regions of the image data having a color difference that is less than a color threshold; and grouping two or more regions included in a color cluster into one of one or more spatial clusters if closest boundaries of the two or more regions are within a distance threshold.

(Column 10, line 25, "FIG. 6, an iterative spatial-constrained clustering algorithm 610 is utilized; where two adjoining regions with a color distance smaller than a given threshold, preferably 225, are merged into one new region 620 until color distances between any two adjoining regions are larger than the threshold.")

() Regarding Claim 2:

The method of claim 1, further comprising: averaging colors of regions of a spatial cluster to generate an average color; assigning the average color as a color of the spatial cluster;

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(Column 10, line 30, "If a new region is generated from two adjoining regions, its mean color is computed 630 by taking weighted average of the mean colors of the two old regions.")

and setting a size of the spatial cluster to a total number of pixels contained in the spatial cluster.

(Column 6, line 27, "video object is a contiguous set of pixels."

Column 4, lines 31-33, "Extracted regions of video information may be grouped based on size."

Column 10, lines 55-60, "a simplification process 434 is applied to eliminate small regions, i.e. regions with less than a given number of pixels." This proves that the number of pixels defines sizes of regions.)

() Regarding Claim 3:

The method of claim 2, further comprising: sorting the spatial clusters according to their sizes.

(Column 4, lines 31-33, "Extracted regions of video information may be grouped based on size."

Column 10, lines 55-60, "a simplification process 434 is applied to eliminate small regions, i.e. regions with less than a given number of pixels.")

6. **Claims 13, 18 and 19** are rejected under 35 U.S.C. 102(b) as being anticipated by Leshem, "Apparatus and method for measurement and temporal comparison of skin surface images" (US-PAT-NO: 6215893). Leshem discloses as follows.

() Regarding Claim 13:

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"An apparatus for processing regions of image data, comprising: a color cluster processor that forms one or more color clusters by grouping regions of the image data which are within a color threshold of each other,

(Column 2, line 60, "means for separating said region of interest into data values representing color clusters and color islands."

Column 6, line 20 "in block 48, the ROI is separated into color clusters".)

and a planes generator which creates binary output planes based on the color clusters."

(Column 6, line 64, "A binary image is built where every image point belonging to the skin clusters is given a HI value and all image points belonging to lesion clusters are given a LOW value.")

() Regarding Claim 18:

an inner blob module which eliminates regions from color and/or spatial clusters which are determined to be completely contained within other regions.

(Column 6, line 44, "in block 52, all ROI image points belonging to clusters which were not established to be either definitely skin or definitely lesion are remapped to belong to clusters which were mapped definitely.")

() Regarding Claim 19:

The apparatus of claim 13, further comprising: a marking module which marks regions which do not conform to a set of predefined criteria.

(Column 6, line 44, "in block 52, all ROI image points belonging to clusters which were not established to be either definitely skin or definitely lesion are remapped".)

Allowable Subject Matter

7. Claims 4, 5, 14-17, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 6-12 are allowable.

9. The following is a statement of reasons for allowable subject matter.

Claim 4 is allowable because the prior art does not teach, "assigning each spatial cluster to a binary output plane", in conjunction with other limitations in the claim.

Claim 6 is allowable because the prior art does not teach "*assigning one or more regions of the image data to a tile based on a location of a bounding box of each of the regions, and one or more of: forming one or more color clusters by including, in each color cluster, regions of the tile that have colors that differ by less than a color threshold; and grouping two or more regions included in a first color cluster into a spatial cluster, if closest boundaries of the two or more regions are within a distance threshold.*"

Claim 14 is allowable because the prior art does not teach, "the color cluster processor also divides an image area of image data into a set of tiles, and assigns the regions of the image data to the tiles based on a location of a bounding box of each of the regions, and groups the regions into clusters depending on color and/or spatial characteristics of the regions", in conjunction with other limitations in the claim.

Claim 16 is allowable because the prior art does not teach, "a color averager that calculates an average color value of either a color cluster based on colors of regions included in the color cluster, or a spatial cluster based on colors of regions included in the spatial cluster, and calculates a size of the color or spatial cluster based on a total number of pixels of the regions included in the color or spatial cluster", in conjunction with other limitations in the claim.

Claim 17 is allowable because the prior art does not teach, "an inner blob module which eliminates color and/or spatial clusters which are not larger than a predefined threshold size", in conjunction with other limitations in the claim.

Claim 20 is allowable because the prior art does not teach, "a module which sorts the color and/or spatial clusters according to size", in conjunction with other limitations in the claim.

Conclusion

10. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bottou discloses, "High Quality Document Image Compression with DjVu" (AT&T Labs, Lincroft, NJ, July 13, 1998). Brecher discloses, "Automated defect classification system" (US-PAT-NO: 5544256).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Max Shikhman whose telephone number is (571) 270-1669. The examiner can normally be reached on Monday-Friday 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business

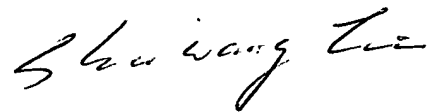
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Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Max Shikhman
3/15/2007

A handwritten signature in cursive script, appearing to read "Shuwang Liu".

SHUWANG LIU
SUPERVISORY PATENT EXAMINER